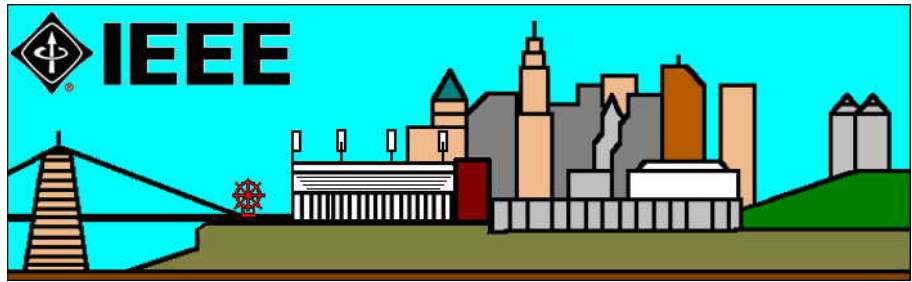


**IEEE CINCINNATI
SECTION
NEWSLETTER
APRIL 2003**



APRIL MEETING
POLICE RADAR AND LASER DETECTORS-
THE STATE OF THE ART

DATE: Thursday, April 24, 2003

PLACE : Raffel's – 10160 Reading Road (see below for directions)

TIME : 5:30 p.m. to 7:00 p.m. - Social Time/Dinner
7:00 p.m. to 8:30 p.m. - Program

COST FOR DINNER: \$15.00 which includes a buffet dinner, soft drinks/coffee, tax & gratuity.
Cost for student members - \$10.00

MENU SELECTIONS: Chicken Cordon Bleu, Creole with Shrimp & Scallops, Beef Stroganoff, Parsley Buttered Potatoes, Broccoli with chesses, Tossed Salad, Dinner Rolls & Butter, Apple & Peach Cobblers, Coffee, Tea Iced Tea, Soft Drinks. There is also a bar available for the purchase of alcoholic drinks. Raffel's is located at 10160 Reading Road, south of Glendale-Milford Road on the east side of Reading. Take I-75 to the Glendale-Milford Rd. Exit, go east on Glendale-Milford Road approximately 3/4 of a mile to Reading Rd. and turn right on Reading.

Please call the Cincinnati Section Voice Mailbox at 513-629-9380, by **Noon, Tuesday, April 22, 2003** if you plan to attend. Please leave your **Name, IEEE Member Number,** and **a daytime telephone number.** You may also make a reservation by e-mailing our Arrangements Chair, Jack Beckmeyer, at [**j.beckmeyer@ieee.org**](mailto:j.beckmeyer@ieee.org).

ABOUT THE PRESENTATION: The presentation for this month's meeting will cover the latest in Police Radar and Laser Detectors including limitations and uses of laser/radar detectors in their everyday life. The presentation will be sufficiently technical to interest electrical engineers of various backgrounds, but also of interest to non-technical people. The presenter will be Dr. Marwan Nusair. Dr. Nusair is a member of both IEEE and Sigma Xi. He completed his Post-doctoral fellow (2 years) and was an Instructor for 2 years in the University of Toronto Physics Department. He has 5 publications in refereed Physics journals and 7 patents (all related to microwave design). He started own business in 1982 and has been in RF-related fields since then. He was a visiting Professor of Physics, University of Cincinnati, 1987-1988.

He currently in involved in design and development of antennas, feedhorns, and microwave receiver circuitry, and other design work in RF projects varying from military radio antennas to 900MHz cellular system design for low power data systems and is currently part owner of a sales rep firm covering Ohio, Indiana, Kentucky and W. Pennsylvania. He also is now working as a design engineer for a local radar detector manufacturer on a consulting basis.

CHAIR'S MESSAGE

by Fred Nadeau, Section Chair

In March, the Cincinnati Section hosted a presentation by Dr. Dharma P. Agrawal from the University of Cincinnati on cell phone wireless technology. Dr. Agrawal illustrated the technology and infrastructure of today's mobile cell phone, internetting of base stations and control of phone messages and billing information. He also presented a look into the future of new cell phone user capabilities, data and image transfers. The talk was well represented by industry and university student members. I wish to express my sincere thanks to Dr. Agrawal for a superb presentation which attracted considerable audience participation.

Since many members have expressed a desire to become Senior Members, I have decided to have a Senior Member workshop to allow eligible members to submit applications and have Senior Member endorsements readily available. There are two potential approaches we could use to accomplish this: 1) by having the workshop as a prelude to a Section meeting or 2) by conducting a virtual workshop where members would submit their application via email to some of our officers who would have selected Senior Members submit their endorsements of the Senior Member application electronically directly to National Headquarters. We will notify members after our EXCOM meeting (of officers) on the most desirable approach. Please feel free to contact myself or Jim Everly (everlyjo@email.uc.edu) if you have any suggestions or comments."

Fred Nadeau, Section Chair

E-mail: f.nadeau@ieee.org

Phone No. 937-289-2800

NEW MEMBERS

The following individuals are IEEE members who are new to our Section:

James J. Agniel

Michael Krell

Greg Bowman

Eric T. MacKnight

Valerie V. Cross

B. Murphy

Tim Hughes

Matthew R. Rickey

Peter G. Kozlowski

A. C. Ruedy

We wish to extend our welcome to all of our Section's new members!!!

Scanning the Past: A History of Electrical Engineering from the Past

Submitted by Dick Reiman, Historian

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Lloyd Espenschied

Seventy years ago this month the PROCEEDINGS OF THE INSTITUTE OF RADIO ENGINEERS (IRE) included a paper by Lloyd Espenschied on the topic of radio applications of wire transmission engineering. At the time Espenschied was with the Department of Development and Research of the American Telephone and Telegraph Company (AT&T), but he had had many years of practical radio experience. In his paper, he noted the "obvious convergence" of the techniques of radio and transmission by wire, with the vacuum-tube amplifier being a principal cause. He discussed carrier suppression and single-sideband transmission as a method that telephone engineers had developed which might usefully be applied to radio. He included graphs which showed how transmission loss varied with distance both for wire and radio communication.

Espenschied was born in St. Louis, Missouri, in 1889, but in 1901 he went to Brooklyn, New York, where he lived with relatives of his mother. He became an amateur radio operator in 1904 and later worked as a shipboard wireless operator for the United Wireless Telegraph Company during summer vacations. He graduated from the Pratt Institute in 1909 with a degree in applied electricity and then worked as an engineer for about a year with the American affiliate of the German Telefunken Wireless Telegraph Company. Among his assignments was the installation of the Telefunken quenched spark system on ships of the U.S. Navy. He joined the Engineering Department of AT&T in 1910 and remained with the Bell Company until his retirement, in 1954. He joined the Wireless Institute, which merged with the Society of Wireless Telegraph Engineers in 1912 to form the IRE. He was recorded as a discussant on the first paper published in the PROCEEDINGS as well as three other papers in the first volume. He became a fellow of the IRE in 1924 and a fellow of the American Institute of Electrical Engineers (AIEE) in 1930.

At the Bell Company, Espenschied worked on the design of loading coils used to enhance telephonic communication by wire, and he also was a participant in long-distance radio telephone experiments using a vacuum-tube transmitter conducted by Bell engineers during 1915. He was sent to Pearl Harbor, Hawaii, to test reception from a transmitter in Arlington, Virginia. Beginning in 1916 he worked with several colleagues, including Herman A. Affel, on a carrier multiplex system which was put in operation between Baltimore, Maryland, and Pittsburgh, Pennsylvania, in 1918. As an outgrowth of this work, Espenschied applied for a patent in 1927 on the use of piezoelectric quartz crystals in band-pass filters. He and Affel jointly received a patent on a wideband coaxial cable system of transmission which was disclosed in a prize-winning paper published in AIEE's ELECTRICAL ENGINEERING in October 1934. Espenschied also contributed to the development of wire distribution of radio programming used in network radio. He patented a collision avoidance system using reflected waves for railroad trains in 1924 and later applied similar techniques for a radio altimeter for airplanes which was produced commercially by the Western Electric Company beginning in 1937. He received the IRE Medal of Honor in 1940 and the Pioneer Award of the IEEE Aerospace and Electronic Systems Group in 1967.

Late in his career, Espenschied became a collector of rare books dealing with electricity going back to the 16th century, a collection now located at the Niels Bohr Library of the American Institute of Physics. He also gave numerous talks dealing with invention and the history of telecommunication. He received about 130 patents during his career. He died in June 1986 at age 97. His professional papers are now located at the National Museum of American History of the Smithsonian Institution.

*James E. Brittain
School of History, Technology, and Society
Georgia Institute of Technology*

TO SUBSCRIBE TO THE ELECTRONIC NEWSLETTER

This newsletter is only available via e-mail or the Section's web page at <http://ieee.cincinnati.fuse.net/> with the exception of new Section members (one issue only) or members who have specifically requested a copy be delivered through the U. S. Mail.

If you are a new Section member and would like to get this newsletter electronically, please contact Bob Morrison (Editor) at **513-287-3697** or by e-mail at j.r.morrison@ieee.org. Provide your name and member number. In case there are questions, please include a daytime telephone number as well.

If you would like the "Snail Mail" version, you must contact Bob Morrison via the above means or call the Section's voice mail at **513-629-9380**.

Senior Membership Application Workshop
By Jim Everly, Vice-Chairman & PACE Representative

The Cincinnati Section of IEEE will sponsor a senior membership application workshop sometime in the near future. A volunteer group of Cincinnati Section IEEE Senior Members and IEEE Fellows will be available to assist section members with application forms and references. Section members interested in elevating their current member status to Senior Member grade should consider attending the workshop. Arrangements for the workshop are being finalized the Executive Committee and notices will appear in upcoming newsletters. In the interim if you have questions concerning Senior Membership, please feel free to contact Jim Everly, Workshop Chairman, at j.everly@ieee.org.

The senior member grade is the highest IEEE membership grade that can be obtained by application. Often-cited reasons for applying include recognition of accomplishments by peers, professional advancement and personal satisfaction. Many section members qualify for advancement to the senior member grade much earlier than they realize.

In most sections, members are slow to apply because they are not aware of the requirements. It's worth noting that holding the senior member grade in IEEE does not imply being at the age level of a "senior citizen." Mid-career or earlier is an appropriate time for a member to apply for an upgrade.

Members who have as few as 10 total years of professional experience, with five or more of those years as significant performance, can meet the minimum requirements for the senior member grade. Applications are reviewed by panels of the Admission and Advancement Committee in regional meetings held 10 times each year.

The 10-year minimum requirement for professional experience can include three years for an applicable bachelor's degree, one year for a master's, and another one for a Ph.D. The panels look closely at the documentation on the five years of significant experience. It is suggested that applicants attach a résumé to aid the panel. Asking for more than the required three senior members or fellows to complete the confidential reference form is also a good idea, since the application can be considered as soon as the first three are received.

For more information on IEEE senior member grade or to receive a senior member application kit, send an e-mail request to "application-request@ieee.org" or contact the IEEE by phone at 800-678-4333.

IEEE NEWS

IEEE-USA Calls for Government Agencies to Consider Ethernet Networks For Prominent Role in Accelerating Advanced Broadband Deployment

WASHINGTON (March 7, 2003) - Federal, state and local government policymakers should ensure that Ethernet networks over fiber infrastructures be fully considered and given a fair marketplace opportunity to prove their value in accelerating advanced broadband deployment, according to an IEEE-USA position adopted by the organization's board of directors last month in Dallas.

IEEE-USA is concerned that scalable gigabit broadband networks, which can be changed in size or configuration to suit changing conditions, are not receiving serious consideration at policy levels in the United States, nor are they being rapidly deployed. This lack of scalability leaves us behind other countries, which recognize that rapidly deploying broadband communications networks offers the potential to enhance a nation's productivity, homeland security and international competitiveness.

In practical terms, IEEE-USA's recommendations mean that the convergence of video, voice and data services could occur because gigabit Ethernet infrastructures offer over 1000 times as much bandwidth as current digital subscriber line (DSL) and cable broadband networks. A transfer of data taking 15.5 minutes on DSL (8.5 mbps) takes just eight seconds with Ethernet over fiber networks. Speed like that will allow businesses to operate far more efficiently, according to IEEE-USA.

"Of the several technology options we studied, we judge this combination to be among the strongest candidates for immediate and rapid deployment of advanced broadband networks," IEEE-USA Vice President for Technology Policy Activities Ralph Wyndrum said. "We recommend that Ethernet networks over fiber infrastructures fill the gap among technologies that are already included in the national debate - DSL, cable-modem and wireless applications."

The organization's position grew out of an international broadband workshop held in June 2002, and subsequent discussion and analyses by technology, policy and economics experts. These meetings established that technological and economic potential exists for accelerating broadband deployment through Ethernet networks capable of gigabit speeds, especially those complemented by compatible wireless technologies. For the entire position statement, go to <http://www.ieeeusa.org/FORUM/POSITIONS/broadband.html>.

Offshore Outsourcing and Labor Importing Put the Squeeze on Jobs in the U.S. High-Tech Industry

WASHINGTON (March 24, 2003) - The United States lost 560,000 jobs in the high-tech industry in 2001-02, according to a March 19 report by the American Electronics Association (http://www.aeanet.org/PressRoom/idmk_2002_tech_employment_press.asp). While IEEE-USA commends AeA for its Tech Employment Update, the unanswered question is where these jobs have gone.

"In addition to the downturn in the U.S. economy, we're worried about the eagerness of American businesses to move high-tech jobs overseas," IEEE-USA President-Elect John Steadman said. "Congress should take a close look at overseas outsourcing to see what can be done to create and keep high-value, high-tech jobs here in the U.S."

During roughly the same time period (FY '01 and '02) our nation lost more than half-a-million high-tech jobs - both blue collar and professional & 799,700 new or renewal H-1B visas were issued. And according to a March 6 article in Business Week, another 329,000 people were working in the U.S. on L-1 visas in 2001, many in the high-tech sector.

In "A Mainframe-Size Visa Loophole," Business Week noted that the L-1 visa is intended for "intracompany transfers by multinational corporations," but "many employers looking to slash costs have discovered that they can use [outsourcing] firms that hire L-1s to dump high-paid Americans in favor of cheaper workers from abroad." Read on at http://www.businessweek.com/careers/content/mar2003/ca2003036_6655.htm.

The unemployment rate for electrical and electronics engineers (EEs) has more than tripled since 2000, going from 1.3 percent to 4.2 percent last year. For computer scientists, the jobless rate jumped from two percent to five percent.

"We have thousands of unemployed engineers, computer scientists and recent college graduates who are having difficulty finding employment because many of the jobs are taken by cheaper, foreign labor," Steadman

said. "With jobs disappearing and historically high levels of unemployment among high-tech professionals, IEEE-USA asks why we continue importing thousands of new workers through the H-1B and L-1 visa programs.

"We should put our own people to work before sending any more good jobs to other countries."

Moreover, IEEE-USA President Jim Leonard, in a March 10 letter, asked every member of Congress to limit the number of H-1B visas available for admission to the U.S., and ensure that more of the H-1B fee revenue is used to address the specialized instructional needs of unemployed engineers, scientists and other high-tech professionals. The money currently goes more to entry-level training for lower-skilled workers.

Leonard also urges Congress to let the current H-1B visa cap of 195,000 drop back to the historical level of 65,000, which will happen on October 1 with no further congressional action.

The IEEE Cincinnati Section Executive Committee **Member Names and Phone Numbers**

Cincinnati Section Voice Mail	513-629-9380 (call for meeting reservations)
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Jim Everly - Vice Chair/PACE/Student Activities	513-556-4241, j.everly@ieee.org (E-mail)
Laurie Tappel - Treasurer	513-397-6383, laurie.tappel@cinbell.com (E-mail)
Ron Harbaugh - Secretary	513-769-3781, ron.harbaugh@ieee.org (E-mail)
Steve Olenick - Member-At-Large	513-642-3118 (Office), 513-642-3338 (Fax), steveo@nova-eng.com (E-mail)
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